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ABSTRACT

The reliability of short versus long passages in informal reading inventories was compared. After 132 fourth grade students were tested with the Standard Reading Inventory, Form B, they read longer passages in either the oral or silent modes. Students with higher silent reading scores read long passages orally, while students with higher oral reading scores or comparable oral/silent reading scores read long passages in the silent mode. The results suggested that the 70% criterion normally used with short passages inadequately predicted reading levels for the longer selections. The increased difficulty of long passages was evident by the marked decreases in comprehension scores. Students with better comprehension scores in either the short-silent or short-oral modes appeared to be frustrated by the longer reading materials. The students with comparable oral/silent reading levels in the short passages showed significantly different scores on the long passages, suggesting that the increased difficulty of long passages inhibited their comprehension considerably. Since the long passages appeared to be more difficult than short passages at the same levels, it was suggested that the trend toward using more lenient interpretation criteria in informal reading inventories might be based on false assumptions. (RL)

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A STUDY OF FOURTH GRADE STUDENTS' READING COMPREHENSION MEASURES IN SHORT AND LONG PASSAGES OF AN INFORMAL READING INVENTORY

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Reading specialists have long advocated the use of informal classroom methods of diagnosis in order to determine students' placement in instructional materials. A popular form of informal diagnosis has been the informal reading inventory, a teacher-made device consisting of short graded passages with comprehension questions.

The current literature in reading diagnosis reflects considerable controversy surrounding the informal reading inventory. Conflicting theories of the reading process have caused disagreements about recommended informal inventory procedures and word recognition criteria. The disagreements arose from (a) philosophical arguments over the roles of comprehension and word recognition in the reading process, (b) questions concerning the predictive validity of short testing passages, and (c) questions regarding the relationship between silent and oral reading.

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The informal reading inventory (IRI) and its evaluation standards were presented by Betts (1946.) He proposed that reading instruction was most appropriate at the instructional level, which was defined as the highest grade level at which the reader was 95% correct in word recognition and 75% correct in comprehension. Betts's version of the IRI was generally accepted until challenged by Powell (1968, 1970). Powell developed a more lenient set of evaluation standards by observing students' word recognition accuracy at the 70% level of comprehension. He suggested 85% word recognition accuracy in grades one and two and 91-95% word recognition accuracy in grades three through six if the 70% comprehension criterion could be met.

Powell's criteria did not meet with universal acceptance. Beldin (1970) criticized Powell's approach, but he did not specify the reasons for his criticism. Pikulski (1974) noted that few attempts were made to either verify or refute Powell's criteria.

The reluctance to accept Powell's criteria could be based on the apprehension that in longer selections, the word recognition errors would accumulate to the point of frustration. The use of stringent word recognition evaluation criteria was advocated by authorities who argued that readers would become frustrated in materials in which they encountered more than a limited number of word recognition difficulties (McCracken, 1967; Ekwall, 1976). Betts (1946) noted that frustration was sometimes greater in the classroom than it was in the inventory situation, and McCracken (1967) warned that longer material was more difficult for the reader to comprehend. The use of short passages for diagnosis had obvious practicality in the classroom, but authorities' warnings about short passages suggested the assumption that long passages were more difficult to read (Spache, 1976; Page, 1974; Harris & Sipay, 1975; Gilliland, 1974).

The emergence of a psycholinguistic viewpoint provided a rationale for questioning past practices in classroom diagnosis. Philosophical differences over the roles of comprehension and word recognition were reflected in differences in recommendations for evaluation with an informal reading inventory. Goodman (1972) argued that long passages would be easier to read as a result of the interaction and accumulation of redundancy and sequential constraint in an extended passage. Menosky (1971) noted decreases in the numbers of miscues as readers became familiar with the material in longer passages.

Another aspect of the controversy surrounding the informal reading inventory was the relationship of oral and silent reading. Empirical studies suggested that some readers comprehended material read orally better than material read silently (Swalm, 1972; Rowell, 1976; Eller & Attea, 1966). Some reading theorists argued that oral reading was actually more difficult (Spache, 1972; Roswell & Natchez, 1964; Tinker & McCullough, 1975). Pikulski (1974) suggested the need for studies to clarify the issue in IRI interpretation.

In developing his IRI criteria, Powell assumed that the proportion of word recognition errors accompanying a 70% comprehension performance would be "tolerable" (Powell, 1968). The question of whether the comprehension performance would remain constant in a long passage remained unanswered. The problem of interpreting differences in readers' oral and silent reading performances in an IRI also remained an issue.

Purposes of the Study

The purposes of this study were:

1. To determine whether placement in long passages based on short oral testing passages results in the correct placement of students whose oral instructional levels are higher than their silent instructional levels.

2. To determine whether placement in long passages based on short oral testing passages results in the correct placement of students whose silent instructional levels are higher than their oral instructional levels.

3. To determine whether the assignment of reading levels based on comprehension performance in short silent passages results in correct placement of students in long passages of equivalent difficulty.

Hypotheses

Three hypotheses were proposed:

1. Students whose oral instructional levels are higher than their silent instructional levels will exhibit a higher level of comprehension performance in the long passages at the silent instructional levels.

2. Students whose silent instructional levels are higher than their oral instructional levels will exhibit a higher level of comprehension performance in the long passages at the oral instructional levels.

3. The assignment of reading levels as determined by short silent passages will

result in the correct placement of students in long silent passages at the same levels of difficulty.

Procedures

A repeated measures design with stratified random sampling was used with a sample of 132 fourth graders randomly selected from two schools in a suburban Houston, Texas, school district.

All students were tested with the Standard Reading Inventory, Form B, in order to determine their silent and oral instructional levels. The instructional level was defined as the highest grade level at which the student achieved 70% or better in comprehension. The students were administered the oral and silent passages of the SR Form B, until comprehension dropped to 50% or until the test ceiling was reached. The oral and silent passages of the SRI, Form B, were administered in alternating order to control the effects of sequence of treatments.

All students whose instructional levels ranged from grades 2-6 were retested with two long passages at the determined silent and oral instructional levels if these levels differed. If the instructional levels were at the same grade level, one story was used. All long passages were read silently. The thirty long passages were drawn from three current basal reading series and were assigned randomly by the researcher. The format of the long passage testing procedure was similar to that of the SRI; however, the long passages were complete basal stories. Readability of the long passage was determined by the use of the Fry Readability Graph (Fry, 1968). The long passage materials were independently evaluated by two reading specialists for passage dependency of the questions and accuracy of the readability level. The student's comprehension scores in both the short and long passages represented a percentage of comprehension questions answered correctly.

The groups studied in Hypotheses 1 and 2 were formed on the basis of their classification as having higher oral instructional levels (HO) or higher silent instruction levels (HS). Additional selection criteria were also applied to the groups studied in all three analyses.

Analysis

A series of two one-tailed *t* tests for paired measures were applied to test Hypotheses 1 and 2. The dependent measures were the students' comprehension percentage

in two long passages at their oral and silent instructional levels.

Of the 132 subjects, 43 met the selection criteria for the higher oral (HO) group studied in Hypothesis 1. The mean comprehension score in long passages at the students' oral instructional levels was 48.72, and the mean comprehension score in long passages at their silent instructional levels was 66.74. There was a significant difference in the HO group's long passage comprehension scores $t=3.99$, $df=42$, $p<.001$).

Of the 132 subjects, only 19 students met the selection criteria for the higher silent (HS) group to be studied in Hypothesis 2. The mean comprehension score in long passages at the students' oral instructional levels was 57.63, and the mean comprehension score at the students' silent instructional levels was 48.94. There was no significant difference in the HS group's mean comprehension scores in long passages at their instructional levels ($t=1.20$, $df=18$).

The group selected as the sample to be studied in Hypothesis 3 consisted of 86 students who met the selection criteria. The dependent measures were the students' comprehension percentage scores in short and long passages at their silent instructional levels. The mean comprehension score in short silent passages at their instructional levels was 82.61, and the mean comprehension score in long passages at these levels was 61.45 ($t=7.18$, $df=85$, $p<.001$).

Discussion

The results of this study suggested that a comprehension criterion of 70% in short testing passages is inadequate to determine the instructional level for longer reading selections at the same readability levels. The increased difficulty of long passages is evident in the marked decreases in comprehension scores on the long passage material.

The HO group's mean comprehension score in long passages at the oral instructional level was 48.72, a level generally considered indicative of frustration. Their mean comprehension performance of 66.74 in the long passages at their silent instructional levels was near the 70% standard of comprehension considered adequate for reading instruction.

This HS group had comprehension scores in two long passages at their oral and silent instructional levels that were not significantly different. The HS students'

mean comprehension score in long passages at the oral instructional levels was 57.63, but their mean comprehension score in long passages at their silent instructional levels was 48.94, a level considered indicative of frustration. The substantial decrease in comprehension in both long passages could account for the absence of significant differences in comprehension scores in the two long passages. The small size of the sample could also be a factor.

Students whose comprehension of short passages is better after either silent or oral reading would appear to be frustrated in longer reading materials assigned on the basis of a comprehension score in the stronger mode of reading. Whether these students could be assigned on the basis of comprehension in the weaker mode is a matter for further investigation.

The results of the testing of Hypothesis 3 showed a statistically significant difference in comprehension scores in short and long passages at the students' silent instructional levels. The short passage mean comprehension score of 82.61 dropped to 61.45 in long passages at the same levels of difficulty. The results suggested that the increased difficulty of long passages caused considerable difficulty in comprehension. The reasons for the increased difficulty in long passages should be investigated.

The long passages appeared to be considerably more difficult than were the short passages at the same levels of difficulty. The results of this study could suggest that the trend towards more lenient IRI interpretation criteria may be based on false assumptions. Until further evidence is available, the use of more stringent IRI criteria is recommended to avoid placing students in reading materials that are too difficult.

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